XP-002075170

1/1 - (C) WPI / DERWENT
AN - 73-80941U ç25!
PR - JP700045924 700527
TI - Crystallised glass fibre prodn - with high heat andmech strength
IW - CRYSTAL GLASS FIBRE PRODUCE HIGH HEAT STRENGTH
PA - (NIPG) NIPPON SHEET GLASS CO LTD
PN - JP48042814B B 000000 DW7352 000pp
ORD - 1900-00-00
IC - C03B37/00 ; C03C3/22 ; C03C13/00
FS - CPI
DC - L01
AB - J73042814 The glass is composed of 65-82 wt.% of SiO2, 2-12 wt.% of Al2O3, 9-17 wt.% of Li2O, 2-5 wt.% of P2O5 and 0-10 wt.% ù=1 metallic oxides selected from CaO, MgO, ZnO, BaO, and B2O3. These ingredients need to occupy ù=95% of the total wt. of the glass and the ratios of Li2O and Al2O3 to P2O5 should by 2.5-6 and 0.7:3 respectively. Li2O is a main crystalline substance and solvent, Al2O3 acts as devitrification inhibitor and P2O5 forms nucleus of crystal. These ingredients are melted together in resist-heating pot made of Pt-Rh alloy at ù1450 degrees C and the molten glass is spun into fibre. The water-cooled cooling plates installed under the nozzles reduce the temperature ú200 degrees C and lower the viscosity of glass thus preventing breaking and crystallise. The fibre obtd. has a minute cross section of ú20 mu dia. and fine crystals of 0.2 mu are formed uniformly after the spun fibre is coated with sizing agent and subjected to heat treatment for 10-90 mins. at ú750 degrees C, pref. 550-700 degrees C.